#3823
K

TECHNICAL MEMORANDUM
Utah Coal Regulatory Program

May 11, 2011

TO: Internal File

THRU: Joe Helfrich, Team Lead

FROM: April A. Abate, Environmental Scientist III AAA 6/8/2011

RE: Permit Application, Carbon Resources LLC, Kinney No. 2 Mine, C/007/0047, Task ID #3823

SUMMARY:

On May 11, 2011, the Division of Oil, Gas and Mining (the Division) received a permit application package (the application) from Carbon Resources, LLC (the Permittee). The application was initially submitted in 2008 and returned deficient in September of 2008 (Task ID #2989). The application was submitted a second time in December of 2010 and was found deficient and returned in January of 2011. The applicant was submitted a third time in March 2011 Task ID #3779 with the deficiencies listed below remaining (deficiency letter sent 05/02/2011). This review under Task ID #3823 represents the fourth round of review of the hydrology section of the rules by the Division.

The application is for coal-mining activities approximately ½ mile north of Scofield, UT and east of Utah State Highway 96. The proposed project will be an underground coal mine operation encompassing 452 acres located in Sections 33 of T12S R7E and Section 4 of T13S R7E. Maximum estimated production is 800,000 tons annually using continuous mining methods. Previous coal mining operations have occurred within much of the mine plan area. Several mines existed in the area of the proposed surface facilities (Kinney Mine, Columbine Mine and the Jones Mine).

RECOMMENDATIONS:

The application should be approved with the following permit condition:

As a condition of permit, once information on water right #91-4026 has been verified, please provide an updated map listing the water right associated with the pond or ponds, an updated water rights database record in Exhibit 13, and add language to the Probably Hydrologic Consequences (PHS) section of the MRP to account for these ponds and prevent or minimize and water loss from these ponds, and an update to Section 731.800 - Water Rights of the MRP. Maps 30 and 31 – Surface and Groundwater Rights may need to be updated accordingly.

Remaining Deficiencies identified by April Abate:

1. **[R645.724.100 and .200,]:** Table 7 should be updated to include water quality parameter sampling for all groundwater monitoring wells in the monitoring well network and ephemeral drainages within the permit area.

Division Response: The applicant was asked to provide a table presenting clear and concise information presented in their Operational Water Monitoring table – Table 7 in the MRP.

Table 7 has been updated to list the column headers to show which samples will be monitored for flow or depth to water, field parameters and laboratory analytical parameters. Additional monitoring locations have been added to the operational water monitoring plan to include the Eagle Seeps and Eagle Spring 2 cluster of springs. The Division and the Permittee have agreed to keep the language in the footnotes discussing the mislabeled samples to help explain any discrepancies in nomenclature during the baseline sampling period.

2. **[R645.724.100 and .200]**: The applicant was asked to provide a ***well schematic diagram for a proposed*** in-mine well to measure the water quality within Eagle Canyon as mining extends eastward towards the western boundary of the western boundary fault. The purpose of this well is to measure any possible negative effects mining would have on the groundwater found in the adjacent Eagle Canyon Graben.

Division Response: The applicant has providing a well schematic diagram of the proposed in-mine well on page 7-7, Figure 15 of the MRP. This well is to pierce the gouge zone of the fault and will be equipped with a differential pressure gauge and valve to monitor water levels and water quality parameters. This well will be added to the operational water monitoring plan once mining has broken ground in the area adjacent to the fault that separates the permit boundary from the Eagle Canyon graben.

3. **[R645.724.100 and .200]**: Information obtained during the 3rd round of review indicated that Eagle Springs 1, Eagle Springs 1A, Eagle Spring 2, Eagle Spring 3 were only monitored initially when the Spring and Seep Survey of the area was conducted in 2006 by Rock Logic Consulting, LLC. In the last round of review a deficiency was identified over the concern of the lack of baseline data from Eagle Springs 1, Eagle Springs 1A, Eagle Spring 2, and Eagle Spring 3 which were not monitored during the baseline period despite the fact that they are within the limits of the permit boundary.

Division Response: The applicant has proposed an attempt to characterize the spring cluster that makes up Eagle Springs 1, Eagle Springs 1A, Eagle Spring 2, Eagle Spring 3 and Aspen Spring/Pond by refining the discharge estimates of these springs over a 12 month monitoring period. An estimate of discharge is allowed under R645-301.724.100. The applicant

has estimated the maximum discharge from Aspen Spring/Pond and the Eagle Seeps cluster to be 25 gallons per minute. The applicant has proposed to monitor these springs and seeps for a 12 month period and from there, commits to monitoring these springs and Aspen Spring/Pond for an additional 2 years on a quarterly basis in order to account for seasonal fluctuations. This plan will verify the estimates for the amount of groundwater output from these springs and provide a volume required to replace any amount of water loss from the springs and ponds in Eagle Canyon due to any negative effects of coal mining within the permit boundary.

4. **[R645.731.530]**: The applicant was asked to clarify the monitoring data pertaining to Aspen Spring since it was not clear how analytical parameters could be collected but flow data was not. The applicant addressed this deficiency by indicating that this location is actually a pond otherwise referred to as "Eagle Pond 1" and that the spring feeds a small pond presumably from the bottom where it is not possible to measure a flow. ***Since Aspen Spring is a pond, it cannot be considered the representative spring and will need to be removed from the plan as such. If this pond is confirmed to be tied to the surface water right in the area (see deficiency #5 to follow) then it will require some type of water level monitoring protocol to ensure that there is no water loss to this water right.***

Division Response: The Applicant has committed to a comprehensive sampling plan over a three year period to monitor the water level in Eagle Pond 1 (aka Aspen Spring) - a spring fed pond and the Eagle Springs and Seeps that are located in the same general area. The applicant has also committed to performing baseline sampling of springs further to the east to facilitate additional data points for future expansion into the Long Canyon area.

5. **[R645-301.731.530]**: Please state in the MRP which sampling point is associated with surface water right No. 91-4026. Surface water right information needs to be expanded upon to address the surface water rights within the permit boundaries.

Division Response: The applicant has presented information in their response that there are *two* separate ponds Eagle Pond 1 – (Aspen Spring) and Eagle Spring and Pond 2 located in Eagle Canyon and within approximately 300 feet of one another. The original water right in the permit area is listed as a surface water right under #91-4026. However, according to the Utah Division of Water Rights (DWRi) database, this water right is under protest and not considered to be valid until a determination can be made. The Applicant has been in consultation with the DWRi who has informed the Applicant that the water right is instead a groundwater right filed on a spring and pond. The claimant of this water right will also need to be contacted to modify the water right to account for the second pond and possibly purchasing additional shares of water. The Applicant has committed to assist with mapping the locations more precisely, monitoring these ponds using a staff gauge installed in the ponds, and ultimately commit to replacing any water lost resulting from mining activities. As a condition of permit, once information on water right #91-4026 has been verified, please provide an updated map listing the water right associated with the pond or ponds, an updated water rights database record in Exhibit

13, and add language to the PHC to account for these ponds and prevent or minimize and water loss from these ponds, and an update to Section 731.800 - Water Rights of the MRP.

6. **[R645-731.500,]**: Non-coal waste streams are not an accepted form of waste allowed to be discharged into underground mine workings as per R645-731.511 & 512. A sentence is on page 7-113 of the MRP stated that sludge materials to include non-coal waste stream will be disposed of in abandoned mine sections. It was recommended that this sentence be removed and language associated with the applicant's intent to haul sediment pond sludge offsite be inserted.

Division Response: The applicant has removed language on page 7-113 in the MRP stating that non-coal waste materials will be disposed of in underground workings and has replaced the language to say that accumulated sediment in the sediment pond will be hauled to a state-approved landfill facility.

RECOMMENDATIONS:

The application should be approved with the following permit condition:

As a condition of permit, once information on water right #91-4026 has been verified, please provide an updated map listing the water right associated with the pond or ponds, an updated water rights database record in Exhibit 13, and add language to the PHC to account for these ponds and prevent or minimize and water loss from these ponds, and an update to Section 731.800 - Water Rights of the MRP. Maps 30 and 31 – Surface and Groundwater Rights may need to be updated accordingly.

O:\007047.KN2\WG3823\WG3823AA.doc